



## Photoprotective effect of tea and its extracts against ultraviolet radiation-induced skin disorders

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### Abstract:

Ultraviolet (UV) exposure induces photodamage of skin. It is a matter of concern that the level of UV radiation reaching the earth surface is increasing as a result of depletion of the stratospheric ozone, and climate change. It is urgently necessary to develop strategies to protect the skin from UV-induced injuries. Tea extracts are gaining increasing attention as a supplement in skin care products. However, the factors contributing to the photoprotective effects of tea extracts have not been systematically defined and conflicting results about the effect of tea extracts on photodamage have been reported. In this paper, the literature dealing with the use of tea and its extracts for the prevention of photodamage to the skin as well as the photoprotective effects of tea and its extracts have been highlighted. The potential chemopreventive agents in tea include catechins, caffeine, polysaccharides, apigenin and luteolin which inhibit, reverse or retard the process of the skin photodamage via their sunscreen and antioxidant properties, regulation of signal transduction pathway and gene expression, alleviation of DNA damage, and modulation immunological function are also presented. Existing gaps in this research field include incomplete clarity of photochemopreventive mechanism of tea, the adverse or side effects of tea extracts owing to residues or impurity and the instability of the functional components of tea during storage.

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### Resource Description

#### Exposure : ☒

weather or climate related pathway by which climate change affects health

Solar Radiation

#### Geographic Feature: ☒

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location: ☒

resource focuses on specific location

Global or Unspecified

#### Health Impact: ☒

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specification of health effect or disease related to climate change exposure

Cancer, Dermatological Effect

## Resource Type:

format or standard characteristic of resource

Review

## Timescale:

time period studied

Time Scale Unspecified